Applicants' Exhibit 20.0

****** PUBLIC VERSION ******

ILLINOIS COMMERCE COMMISSION

DOCKET NO. 04-0294

REBUTTAL TESTIMONY

OF

RONALD D. PATE

Submitted on Behalf

Of

ILLINOIS POWER COMPANY

July 20, 2004

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DOCKET NO. 04-0294

PREPARED REBUTTAL TESTIMONY OF RONALD D. PATE

I. WITNESS INTRODUCTION AND QUALIFICATIONS

1. Q. Please state your name, business address and present position.

A. My name is Ronald D. Pate. My business address is 500 South 27th Street, Decatur, IL 62521. I am employed by Illinois Power Company ("Illinois Power", "IP" or "Company") as the Vice President Asset Performance and Compliance Management.

2. Q. Please summarize your educational background and professional experience.

A. I received a B.S. in Business Management from Southern Illinois University in 1976. I also received an Executive Leadership Degree from the University of North Carolina, Chapel Hill in 2003. I joined Illinois Power Company as a gas journeyman in 1978. I have previously held positions of Gas Superintendent, Gas Operations Team Leader, Manager—Gas Delivery, Senior Director—Gas Delivery, and Vice President—Utility Operations. In the position of Vice President—Utility Operations, I was responsible for the oversight and support of field operations, including emergency response, operations, engineering design, construction, and metering.

3. Q. What are your duties and responsibilities in your present position?

A. I oversee the asset management function at Illinois Power Company. I also am responsible for electric standards, electric and gas planning, reliability programs, gas quality programs, administrative services, safety and training, and environmental programs.

4. Q. What is the purpose of your rebuttal testimony?

A. My rebuttal testimony responds to the findings and recommendations provided by representatives of R. W. Beck on the behalf of the City of Champaign and the City of Urbana ("Cities"). Specifically, I am responding to the testimony of Richard Jones concerning his findings and recommendations resulting from his inspection of electrical substations and distribution circuits and the testimony of Steven Brodsky concerning his finding and recommendations resulting from his review of various data request responses provided by Illinois Power and Ameren and his review of other information.

5. Q. What is IP Exhibit 20.1?

A. IP Exhibit 20.1 is a listing of all of the Illinois Power reports and other documents that were either provided to Champaign and Urbana in response to their data requests in this proceeding, or were made available for review by the Cities' consultant at IP's offices. Mr. Brodsky visited Illinois Power's headquarter in Decatur on June 23, 2004, to review these documents.

II. RESPONSE TO MR. JONES' TESTIMONY AND REPORT

6. Q. Mr. Jones' testimony includes the statement that physical loads on the

system have grown to the point that poles and cross arms are too small. How does IP address providing for assuring poles and arms have acceptable physical strength for the loadings that will be placed on these components?

A. Illinois Power's design processes for new construction provide for the selection of poles and arms that have the strength necessary for supporting the physical loads imposed upon them. This process includes compliance with National Electrical Safety Code ("NESC") strength requirements. When physical loads on existing lines are increased due to changes in line configuration or capacity increases, the design process provides for assessment of the strength of existing components against the new loads, and replacement of those components which are not adequate for the new loads. If these components lose strength due to physical deterioration, the need for replacement is identified by inspection programs (which I will discuss later in this testimony), and the component is replaced.

7. Q. What programs does IP have in place to provide for the maintenance and upkeep of electrical substations and electrical lines?

A. Illinois Power has a number of programs in place to determine the condition of electrical substations and electrical lines and the need for maintenance to be performed on these facilities. Illinois Power's maintenance includes patrol of every distribution circuit once every four years to assess safety and reliability. Those distribution circuits identified as "worst performing circuits" ("WPC", a term I will explain later)

undergo an additional analysis, which may include patrols conducted by a third party contractor. WPC patrols conducted by a third party contractor include a structural assessment of all poles on the circuit.

Monthly inspections are performed on distribution reclosers. Distribution oil circuit reclosers are replaced every six years. Distribution capacitor bank inspections are performed three times annually. Distribution voltage regulator inspections are performed four times annually. Duct and manhole electric system inspections are conducted twice per year.

Higher voltage lines (69kV, 138kV and 345kV) are patrolled twice a year to assess for safety and reliability. In addition, special aerial or foot patrols are conducted when deemed necessary due to emergent conditions.

Electrical substations are inspected monthly to assess safety and reliability. Substation infrared surveys are conducted periodically to proactively identify potential failures and thereby enable the correction of problems prior to equipment failures. Oil analysis is performed on oil-filled equipment on a periodic basis to proactively identify incipient equipment problems and enable problems to be corrected prior to equipment failures. Periodic inspections are conducted and periodic maintenance is performed on substation equipment to provide for continued operation of the equipment.

8. Q. Are appearance and age the primary factors for condition-driven replacements of electrical substation and electrical lines?

A. No. Electrical line or electrical substation components are replaced or repaired when they are no longer able to perform their required functions. For example, a pole which appears very weather-beaten can still have the structural strength to properly perform its function of supporting the line conductor. Factors that must be included in analyzing the pole condition include type and effectiveness of original pole treatment, soil conditions, contamination of the soil, and inspection and treatment programs that have been implemented to increase the useful life of poles.

9. Q. Several of the distribution circuits inspected by Mr. Jones were previously classified as WPC. Are you familiar with the outages which prompted this classification for these circuits, and the resulting actions taken by Illinois Power?

A. Yes. Each year, IP evaluates and take actions on its WPCs. WPCs are defined by the Illinois Commerce Commission as the worst 1% in each of three reliability index categories based on either frequency or duration of interruptions.

Circuit 142. Circuit 142 out of the North Champaign Mattis Avenue Substation was a 2002 WPC due to frequency of interruptions that year. This was primarily attributed to three separate outages which affected the entire circuit: in April, a completely self-contained transformer failed and eventually caused the line to fail; in July, a lightning arrester was severely damaged and as a result, two phases came in contact; and also in July, lightning locked out the circuit back to the

substation. In addition to routine maintenance activities performed on this circuit, IP conducted an extensive independent review of this circuit in 2003. A nationally recognized expert in pole analysis was hired to determine the remaining strength of all poles on the primary of this circuit. As a result, several maintenance activities (pole replacement or restoration) were performed. Circuit 142 performed very well in 2003. Other than one large outage to date in 2004 that was caused by human error, this circuit continues to perform very well.

Circuit 162. Circuit 162 out of the Mattis Avenue Substation was a 2001 WPC due to the frequency of outages on the circuit that year. In 2001, this circuit experienced several isolated and single-customer interruptions due to lightning, wind or animals. The primary causes of this circuit becoming a WPC were three separate events that affected the entire circuit: in August of that year, a vehicle hit a pole, causing it to catch on fire and forcing IP crews to take the circuit off line; in October, the circuit was impacted by the severe storm that produced the tornado which hit Monticello; and in December, a squirrel tripped a device, causing an outage to roll all the way back to the substation. The only outage in 2001 that was attributable to overhead equipment problems occurred in November, was due to a broken primary conductor, and affected four customers. In addition to routine maintenance activities performed on this circuit, IP conducted an extensive independent review of this circuit in 2002. A nationally recognized expert in pole analysis was hired to

determine remaining strength of all primary poles. As a result, several maintenance activities (installing additional animal protection) were performed. Further, a study was conducted to ensure protective and operational devices were sized appropriately to work effectively together. This circuit's performance improved in 2003 and it is performing well in 2004.

Circuit 311. Circuit 311, fed out of the Miller Street Substation (not Washington as indicated in Mr. Jones' testimony), was a 2001 WPC due to the duration of outages on the circuit in that year. In 2001, this circuit experienced one extended outage due to strong winds during the month of July. Although only about 10% of the customers on Circuit 311 were impacted by this outage, its duration was prolonged due to the impact of this storm across the entire Champaign service area. Many crews were needed to assist in the restoration efforts after strong winds downed many trees and power lines. As a result of this circuit being a WPC in 2001, IP personnel patrolled this circuit in 2002 and performed various maintenance activities. This circuit continues to perform well in terms of the low number of customer interruptions. In 2002 and 2003, storms also impacted this circuit in terms of outage duration, but to a much lesser degree than in 2001. As part of IP's routine maintenance program to patrol 25% of all distribution circuits each year, Circuit 311 was patrolled in 2003. A few maintenance projects were completed and the circuit is performing very well in 2004 to date.

10. Q. Mr. Jones asserts near the end of his report that the Illinois Power Champaign-Urbana electrical system is an old and depleted system and that Illinois Power has not performed the maintenance to keep the system in good shape. Mr. Jones also speculates that pin type/pin cap insulators may be a cause of outages on the distribution system. Do you have a response to these assertions?

A. Yes. Mr. Jones' assertions were based on a brief visual inspection of four circuits. In his rebuttal testimony, Illinois Power witness Peter Millburg, who accompanied Mr. Jones on his tour, provides some specific observations on Mr. Jones' tour and the facilities he inspected. The four circuits are a small part of IP's overall electrical system in Champaign-Urbana. As I stated previously, age is not the sole factor in determining the condition of electric facilities on an electrical system. Although parts of the Champaign-Urbana electrical system are old, Illinois Power's ongoing inspection and maintenance activities have provided for maintaining the system in a condition that provides for reliable electrical service. These activities are focused on repairing or replacing the portions and components of the system necessary to provide for reliable service. The choice of repair versus replacement, and the choice of the specific method to repair or replace facilities, are both based upon the prudent use of resources. For example, a pole with a failed top which is otherwise structurally sound will be repaired by banding the top if sufficient material exists to accept the band. Poles which have deteriorated at the ground line

but are otherwise structurally sound can be C-trussed to restore the structural strength of the pole. Replacing such poles instead of repairing them would not be a prudent use of resources. Components of the system which have the strength and capacity for providing reliable service are left in place to continue to provide reliable service.

With respect to Mr. Jones' (and Mr. Brodsky's) observations concerning the existence of cap and pin insulators on the Illinois Power electrical system, IP is aware of cap and pin insulator issues. Illinois Power has replaced many cap and pin insulators in its substations with newer station post insulators. Illinois Power has an ongoing effort in progress to replace cap and pin insulators. IP's ongoing inspection and maintenance programs provide for identification of locations with problem cap and pin insulators. However, Mr. Jones' speculation that pin and cap insulators are the cause of the outages on the circuits he inspected is not supported by the specifics of the outages on those circuits, which I previously discussed.

Illinois Power's inspection and maintenance program provides for the gathering of relevant data which is then utilized to assure the adequacy of facilities through preliminary engineering, asset management analysis, final engineering design and replacement or repair of any facilities not meeting Illinois Power's standards. IP's standards in turn meet or exceed NESC standards. The intent of IP's processes and programs is to repair, replace or rebuild facilities prior to any failure or condition that exceeds

our standards, in order to assure a safe and reliable electrical system.

III. RESPONSE TO MR. BRODSKY'S TESTIMONY AND REPORT

11. Q. Mr. Brodsky states in his finding number 1 that "A current and comprehensive analysis of the electric distribution and transmission systems that affect the Cities needs to be conducted." Was evidence provided to Mr. Brodsky in IP's response to the Cities' data requests demonstrating that current and comprehensive analyses of the electric distribution, subtransmission and transmission systems have been performed by IP?

A. Yes. Over the past 5 years, IP has performed numerous studies and analyses of the distribution, subtransmission and transmission systems serving our Champaign service area, which encompasses the Cities of Champaign and Urbana as well as surrounding areas. Below is a list of such studies and analyses that were made available for Mr. Brodsky's review; I have grouped these studies by type or purpose.

Near term analysis of all 4 kV and 12 kV circuits based on most recent summer peak load data:

- Annual Distribution Circuit Review Results – 1999 through 2004

5-Year distribution and customer substation load forecast by substation bus (these studies are inputs to subtransmission and transmission system studies and are part of the basis for identifying and prioritizing long range distribution system studies):

- Champaign Area Forecasted Substation Loads – 2000-2004 (May, 2000)
- Champaign Area Forecasted Substation Loads – 2002-2006 (July, 2002)

Distribution System Studies (conducted to develop long range plans, typically based on a 5 to 10 year study horizon):

- Champaign Leverett Road Substation Distribution Study Final report (June, 2004)
- Southwest Champaign Distribution Review – Preliminary Report (December, 2002)
- Review of Circuit 552 Urbana Perkins Road Substation (December, 2001)
- Urbana Goodwin Ave. Substation Final Report (June 2000)
- South East Urbana Distribution Study Final Report (October 1999)

Subtransmission System Assessments (5 year assessments of system based on the most recent substation load forecast, conducted to identify potential system concerns; no formal recommendations or plans are developed in these studies):

- Champaign Area Preliminary Subtransmission Assessment Year 2005 (November, 2000)
- Champaign Area Preliminary Subtransmission Assessment Year 2007 (December, 2002)

Subtransmission System Studies (used to develop long range plans; typically conducted based on a 5 to 10 year study horizon):

- Champaign Subtransmission Review (November, 1999)
- Evaluation of Capacitor Addition at N. Champaign Substation (September, 2001)
- Ameren Tap to Serve S. Savoy Impact Study (December, 2003)

Transmission System Studies (used to develop long range plans; typically conducted based on a 5 to 10 year study horizon):

- December 31, 1999 MAIN[1] Transmission Assessment Study (August, 1999)

[1] Mid-American Interconnected Network.

- 2007 MAIN Summer Future Systems Study (January, 2002)

- 2009 Summer Transfer Capability Analysis (February, 2004)

- MAIN/NERC[2] 2001 Compliance I.A.M1, M2, M3 & M4 Assessments (April, 2001)

- MAIN/NERC 2002 Compliance I.A.M1, M2, M3 & M4 Assessments (April, 2002)

- MAIN/NERC 2003 Compliance I.A.M1, M2, M3 & M4 Assessments (April, 2003)

- MAIN/NERC 2004 Compliance I.A.M1, M2, M3 & M4 Assessments (April, 2004)

- Automatic Underfrequency Load Shedding Plan – 2003-2005 Final Report (June 2003)

- Automatic Underfrequency Load Shedding Plan – 2000-2002 Final Report (May 2000)

Evaluations of proposed system load additions, generator interconnect studies, reserve feed evaluations, motor starting/voltage flicker calculations, special switching studies and similar facility-specific studies:

- Daily Requests / System Reviews – 1999 to present (ongoing requests from field engineering and operations staff to evaluate the system impact of proposed load additions greater than 250 kVA, new subdivisions, motor starting calculations, special switching, voltage issues, protective device coordination questions, etc. Over 100 requests documented since 1999 for the Champaign service area were made available for Mr. Brodsky's review.)

- (Customer name withheld) Load Study (July & August, 2001)

- (Customer name withheld) C/U Generator Interconnection Study (June, 2002)

- (Customer name withheld) Micro-Turbine Interconnection Study (May, 2002)

[2]North American Electric Reliability Council.

- (Customer name withheld) Wind Turbine Interconnection Study (February, 2000)
- Champaign County Facility Study – March, 2001
- Piatt County Facility Study – March, 2001
- Douglas County Facility Study – April, 2001
- Champaign County 2 Facility Study – July, 2001
- Vermilion County 3-5 Facility Studies – January, 2002

In addition to the studies I have enumerated, Illinois Power annually performs protective device coordination reviews for selected circuits, including the WPCs identified by the reliability statistics, as appropriate.

12. Q. In his first finding, after stating "A current and comprehensive analysis of the electric distribution and transmission systems that affect the Cities needs to be conducted", Mr. Brodsky stated that "These studies should be based on prudent reliability criteria, which may be less aggressive than what is currently being used by IPC." Has Mr. Brodsky provided evidence that the criteria used by IP are not prudent or that less aggressive criteria are warranted?

A. No.

13. Q. Did Mr. Brodsky provide any evidence that the system planning criteria and practices used by IP have resulted in inadequate system capacity or degraded electric service reliability?

A. No. To the contrary, one of the primary findings listed in Mr. Brodsky's report is that "IPC's transmission and distribution planners generally do a

good job of identifying projects and facilities needed for the reliable transmission and distribution of electric power." (Brodsky Report, p. 1)

14. Q. Does the discussion in Mr. Brodsky's Report under the heading "Review of IPC's Distribution Planning Reports" accurately summarize and characterize the system planning criteria used by IP and the system analyses performed by IP?

A. No. Many of the detailed findings and conclusions from the assessment performed by Mr. Brodsky appear to be based on incorrect interpretation, a misunderstanding of the information provided by IP, or speculation, and mischaracterization of the criteria and system analyses performed by IP. Following are a few of the issues associated with the assertions in Mr. Brodsky's report.

1. Failure to understand and consider the difference in scope between a distribution system study, subtransmission system study, subtransmission system assessment and the annual distribution circuit analysis. For example, when reviewing subtransmission system studies, Mr. Brodsky focused on potential distribution substation problems and the fact that no solutions to these problems were recommended. Solutions and plans to address distribution-related concerns are, however, addressed by distribution system studies, not by subtransmission system studies.

2. Failure to distinguish between the analyses pertaining to distribution line transformers and distribution substation

transformers, and failure to understand the rating differences. As a result, Mr. Brodsky confused the power factor and rating information used to evaluate transformer loadings and erroneously concluded that there are apparent discrepancies in the transformer ratings being used by IP.

3. Misunderstanding and inaccurate statements regarding the load and power factor assumptions used by IP when analyzing the electric system. As a result, Mr. Brodsky erroneously concludes that Illinois Power has understated the transformer loading and that additional transformers might be overloaded.

4. Not distinguishing between major system reinforcements and short lead time fixes for a problem, and therefore concluding that prompt and comprehensive action was not taken when short lead time fixes provided time to monitor actual load growth and avoided making greater expenditures sooner than necessary. As a result, Mr. Brodsky incorrectly concluded that fixes could not be implemented in a timely manner.

5. Presenting an unbalanced overview of the system studies and analyses by focusing on the problems and deficiencies reported in these documents and speculating on IP's ability to implement solutions. Mr. Brodsky failed to recognize the impact of uncertainties and the need to continually monitor and reevaluate system reinforcement plans.

I will address each of these issues in more detail in my testimony below.

15. Q. To help clarify the differences in scope between distribution, subtransmission, and transmission system analyses, please describe the electric system functional levels considered by IP in the development of its planning criteria and in performing system analyses.

A. Illinois Power's electric system is comprised of three functional levels for planning and operating purposes: (1) transmission (345 kV and 138 kV), (2) subtransmission (69 kV and 34.5 kV), and (3) distribution (12 kV and 4 kV). Each of these functional levels of the system has unique design and operating characteristics. The transmission system is a network of 345 kV and 138 kV lines which is used to move electric energy from the generation sources to the distribution systems and to move electric energy between utility systems. A limited number of very large customers are served directly from the transmission system. The subtransmission system includes both network and radial 69 kV and 34.5 kV lines. Bulk supply transformers supply electricity from the transmission system to the subtransmission system, which in turn delivers power at the intermediate voltage levels to distribution substations or directly to large customers. Distribution substation transformers step the subtransmission voltages down to the 12 kV and 4 kV distribution system voltages. The distribution system is normally operated as a radial system.

16. Q. Has Illinois Power established planning criteria which are applicable to each of these functional levels, i.e., transmission, subtransmission and

distribution, to ensure the development and maintenance of a system which will adequately and reliably serve the projected customer loads?

A. Yes. Illinois Power has developed and documented planning criteria which are unique to the transmission, subtransmission, and distribution systems, respectively. These criteria, including the voltage requirements and facility and equipment ratings used by IP, are outlined in the documents made available for Mr. Brodsky's review.

17. Q. Mr. Brodsky concluded that Illinois Power's loading criteria for transformers are aggressive and unfounded. Please explain Illinois Power's transformer loading criteria.

A. Mr. Brodsky seems to confuse two types of "distribution transformers" and the acceptable loading of the transformers beyond their nameplate ratings.

The distribution substation transformers (normally 69 kV or 34kV to 12.47 KV or 4.16 KV) are the transformers that feed the 12.47 KV or 4.16 KV distribution feeders. The rating of a transformer is based on the amount of heat that the transformer winding generates and the aging effect of the heat on its insulation. The nameplate rating is the rating established by the transformer manufacturer which is based on a constant load, a constant ambient temperature, and normal life expectancy. Because thermal aging is a cumulative process, transformers may be operated above continuous hottest-spot temperatures for short period provided they are operated for much longer periods at lower temperatures. This permits

loads above the nameplate rating to be safely carried under specific conditions without reducing the normal life expectancy of the transformer. Based on the expected load cycle which is typical of distribution circuits, IP rates the capacity for these transformers to be 115% of the nameplate rating. Transformer ratings, as well as other ratings, are clearly shown in IP's planning criteria and load forecast documents.

The single phase or 3-phase line distribution transformers (typically 12.47 kV or 4.16 KV to 120/208 volt or 277/480 volt) are the pole or pad-mounted transformers that deliver power from the distribution circuits to the customers' premises. The allowable maximum loadings for these much smaller transformers are shown in the EDD 20-3.1 tables which were provided for Mr. Brodsky's review. The loading capacity of these transformers can be as high as 170% of their nameplate ratings, due to the load cycle and cooling periods, with minimum impact on the life of the transformers or their reliability. EDD 20-1.1, which was also provided for Mr. Brodsky's review, explains the rationale for exceeding the nameplate values, The values that IP uses are consistent with the practices of other utilities and the power industry. For example, the Electric Utility Engineering Reference Book for Distribution Systems, published by Westinghouse Electric Corporation, at page 241, shows a table of "Permissible Short-Time Transformer Loading" with values as high as 200% of the nameplate under certain conditions.

18. Q. Do you agree with Mr. Brodsky's opinion that the number of overloaded transformers on IP's system is excessive? (Brodsky Report, p. 13)

A. No. Mr. Brodsky has formed his opinion based on the 2003 overload transformer report dated November 24, 2003. This report lists the distribution line transformers which were calculated to overload based on an assumed customer power factor of .85. The report identifies 74 potential transformer overloads in IP's Champaign service area and 1,136 potential transformer overloads Company-wide. To put this into perspective, Illinois Power has roughly 14,000 distribution transformer banks in service in the Champaign area and over 170,000 Company-wide. In other words, 0.5% to 0.7% of the total transformers were identified as potentially being overloaded. If field investigation confirms that a transformer could be overloaded, the transformer is upgraded.

19. Q. Mr. Brodsky questioned the use of a .98 power factor for IP's planning studies. (Brodsky Report, p. 3) Please explain what power factor is and explain the power factor assumptions used by Illinois Power in planning its system.

A. Power factor is by definition the cosine of the angle between the voltage and the current. It is also the ratio of the real power (kW) to the apparent power (kVA). The lower the power factor, the greater the current and apparent power needed to supply the same kW load. The importance of power factor in system planning is that the equipment must be sized to carry the apparent power load (kVA).

Illinois Power assumes the load power factor at the customer level, i.e., transformers served by the 4 kV and 12 kV distribution system, to be .85. A power factor of .85 is representative of the typical power factor for customers served from the distribution system, which have a mix of unity power factor resistive loads, such as lighting, and lower power factor loads, such as motors.

Illinois Power does not assume a .98 power factor for connected loads as Mr. Brodsky stated in his report, which appears to a conclusion reached as a result of his confusion between distribution substation transformers and distribution line transformers. It appears that Mr. Brodsky noted IP's reference to using .98 power factor for the system load at the low side bus of the distribution substation transformer and assumed that IP used the same power factor at customer level when evaluating line distribution transformer loading and analyzing distribution feeders.

Feeder calculations performed as part of the distribution circuit studies, and the annual distribution circuit analyses, are based on an assumed power factor of .85 at the customer level. Similarly, the development of the overloaded distribution transformer reports is based on an assumed power factor of .85 at the customer level. One of the objectives in performing the circuit studies and analyses is to maintain .98 lagging minimum power factor at the **substation bus** and to strive for unity power factor (1.00). If the calculated power factor is less than .98, a project is recommended to add capacitor banks as necessary to meet the

planning criteria. Recording VAR charts at the substation are reviewed to verify the calculated results. If a review of the VAR charts supports the need for more capacitor banks, the additional appropriate capacitor banks are scheduled for installation.

IP's subtransmission and transmission system studies are then performed based on the knowledge that the distribution studies and analyses have corrected the power factor to .98 or better. Therefore, the subtransmission and transmission system studies are performed assuming .98 power factor at the distribution substation bus.

20. Q. Based on the your clarification of the power factor assumptions used by IP, are Mr. Brodsky's assertions regarding the load power factor assumptions used by IP when analyzing its electric system inaccurate?

A. Yes. Mr. Brodsky's assertion that a .98 power factor is optimistic and that a lower, more conservative, figure would be prudent, was based on his conclusion that a .98 load power factor at the customer level was being assumed by IP, which is not true. The power factor assumptions used by Illinois Power are described in the documents that were provided for Mr. Brodsky's review. For example, IP's Subtransmission and Distribution Planning book states: **BEGIN CONFIDENTIAL**

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As another example, IP's 2003 Overloaded Transformers report lists the kW loading, KVA rating and the percent loading for each transformer. An examination of the calculations shows that a .85 power factor was used to calculate the KVA loading of these distribution line transformers, which are also referred to by IP as transformer stations.

21. Q. In the portion of his report reviewing various Illinois Power distribution planning studies, Mr. Brodsky concluded that Illinois Power's planning studies have identified many projected overloaded conditions that IP has not made commitments to address, nor committed funds to address. Do you agree with his assertions?

A. No. A review of Mr. Brodsky's report indicates several errors in his assessment. These appear to result from lack of familiarity with the Illinois Power planning process and the IP budgeting process.

For example, Mr. Brodsky's report noted four projected overloading issues identified in the Illinois Power South East Urbana Distribution Study, Final Report dated October 19, 1999. One was a projected overload in 2002, two were projected overloads in 2003, and one was a projected overload in 2006. The conclusion to this study stated that no capital expenditures to the electric distribution were recommended at the time of the study, but that due to forecasted rapid load growth on one circuit included in the study and uncertainty as to future service requirements to a major customer, another distribution study was

recommend in 2002. Mr. Brodsky expressed concern that this was a "wait and see attitude", and not a proactive approach. His comment is a misinterpretation of the study results. All of the overloading issues were forecasted overloads. One was forecasted to occur two years from the date of the study, two were forecasted to occur three years from the date of the study, and one was forecasted to occur six years from the date of the study. All of these projected overloads could be resolved by small projects which could be engineered and installed in six months or less. Commitment and expenditure of resources at the time of the study for forecasted overloads which may not occur would not be prudent.

In addition, the Illinois Power planning process calls for yearly reviews of loadings to assess if the assumptions used in developing the forecasted load have changed, and if timing of projected overloads has changed. These yearly reviews frequently find that previously-identified forecasted load additions have not materialized.

Further, it appears that the statement in this report about future service requirements to the major customer was misconstrued by Mr. Brodsky. This existing customer was in the process of changing its service and reducing its demand. Therefore, the issue was one of how soon the customer would reduce its demand, and as a consequence, how soon capacity on various Illinois Power facilities would become available to serve load growth in southwest Urbana.

22. Q. Are there any other examples where Mr. Brodsky summarized the results

from a planning report in a manner which provided an unbalanced overview and then concluded Illinois Power would not be able to implement solutions prior to exposing the Cities to potential service curtailments?

A. Yes, in his report Mr. Brodsky presented the results of a sensitivity analysis which was performed based n a possible load scenarios for a major customer. However, he failed to label it as a sensitivity analysis or to recognize that operating parameters would be established preventing potential overloads.

23. Q. Were there other issues in Mr. Brodsky's report concerning the difference in scope between distribution system and subtransmission system studies?

A. Yes. In the section of his report captioned "Review of IPC's Distribution Planning Reports", Mr. Brodsky expressed a concern that a Subtransmission Planning study report concluded there are no major **Subtransmission system** reinforcement projects needed when forecasted overloads on the **Distribution system** were noted in the report. This apparent (to Mr. Brodsky) inconsistency is explained by the intent and purpose of the different studies. This was a subtransmission study and report, the purpose of which is to identify and recommend projects required on the subtransmission system. Any overloads on the distribution system and resulting recommended projects are addressed in other studies. Therefore, there is no inconsistency.

Mr. Brodsky also noted a report addressing various capacitors that

were determined to be inoperable, and he noted that the report did not provide information on why the capacitors were inoperable or what repairs would be required. The purpose of the study and report was to determine the system power factor needs and confirm what capacitors were needed. Determination of what repairs were needed to return the capacitors to service is a maintenance issue, not a planning issue. Therefore, the study does not contain the information, nor should it be expected to.

Mr. Brodsky's assessment of identified loading issues does not appear to reflect an understanding of the variety of solutions available to address forecasted overloaded facilities. Many distribution circuit overloads are addressed by improving the distribution of single phase loads between the three phases of a three phase circuit. This solution can be quickly implemented. Subtransmission line ratings can be adjusted based on the specific characteristics of the line since ratings are primarily a function of sag of the conductor. This solution can also be quickly implemented.

Mr. Brodsky's report made a number of assertions about the timing of when issues were identified by IP and the perceived (by Mr. Brodsky) inability to resolve them before reliable service would be impacted. Many of the examples he provided related to distribution substation loadings, which are monitored not only when a major study is issued, but also during Annual Run analyses and in our bi-annual load forecasting process. Distribution loads do not always follow anticipated trends, so they are

monitored more closely when approaching transformer ratings. Thus, for example, an overload projected in a 1999 study to occur in 2002 may not materialize, either because of a load transfer, an increase in transformer capability made possible by the addition of circulating fans or a transformer upgrade, or the load just not growing as anticipated. All of these types of resolutions can be tied specifically to the examples listed in Mr. Brodsky's report.

24. Q. Did Mr. Brodsky determine in his assessment that the transmission planning criteria used by IP are inadequate?

A. No. Mr. Brodsky stated in the section of his report captioned "Review of Transmission and Distribution Reliability Criteria", "The data provided by IPC suggests that its transmission planning criteria generally complies with the transmission planning criteria put forward by NERC and MAIN."

25. Q. Mr. Brodsky's report references the NERC 2002 Compliance Program, Planning Standard I.A.M2: System Performance Following the Loss of a Single Bulk System Component, dated June 22, 2204, which he was provided by IP, and he questions why problems are showing up in analyses conducted after the solution was claimed to be completed. Do you have a response?

A. Yes, unfortunately, it appears that confusion was created regarding this document because when a copy was printed from a computer file to make it available to Mr. Brodsky, the computer automatically changed the date on the copy to the current date, June 22, 2004. The system assessments

described in the report were actually performed during the first quarter of 2002.

26. Q. IP provided Mr. Brodsky the results of the system assessments performed to comply with MAIN/NERC planning standards for each of the years 2001 through 2004. Did the findings of any of these assessments suggest that a new 345 kV transmission line between Sidney and Rising Substations should be investigated, and, if justified, constructed, as Mr. Brodsky proposed in finding no. 8?

A. No. The results of the transmission system assessments did not indicate a need for this transmission line in order to meet IP's criteria and the NERC planning standards. Construction of a 345 kV line from the Sidney to the Rising substation has been part of a horizon strategy for many years. However, studies have not determined that the line is necessary to provide adequate and reliable service to the area or that it is the least cost means of meeting the needs of the area at this time.

27. Q. What is your response to Mr. Brodsky's review of IP's Transmission Planning Reports?

A. The majority of the Illinois Power study findings listed by Mr. Brodsky as issues in his report under the heading "Review of IP's Transmission Planning Reports" pertain to transmission facilities that do not provide service to Champaign or Urbana. Some of these studies pertain to transmission facilities as far south as the Baldwin Power Station and as far north as the Galesburg area. In addition, many of these findings were

overloads forecasted to occur in 2009 and 2010. Mr. Brodsky expressed concern that there was no apparent commitment of funds to address these study findings. However, due to the timing of when the system was forecasted to experience the deviation from transmission planning criteria, there was no need to commit funds at the time of the study.

In the section of his report captioned "Review of IP's Transmission Planning Reports", Mr. Brodsky also lists certain forecasted overloads or forecasted low voltages that studies projected would occur upon the loss of two or more bulk system components. IP's planning criteria call for maintaining acceptable loading levels and acceptable voltage levels under a single contingency. The outage of two or more system components would exceed Illinois Power's criteria, and system reinforcements to serve load under these conditions is not required by NERC planning standards.

28. Q. In his finding number 12, Mr. Brodsky stated that consideration should be given to undergrounding certain existing overhead lines. What is your response?

A. The basis for this finding appears to be an Edison Electric Institute ("EEI") report titled "Out of sight, Out of mind?" Mr. Brodsky noted several findings from the EEI report. The EEI report found fewer average interruptions and customer minutes lost for underground than for overhead facilities. Mr. Brodsky also noted a finding in the EEI report that overhead outages are easier to repair and can have a shorter duration. The final EEI report finding noted by Mr. Brodsky is that undergrounding distribution

systems cannot be justified solely on the basis of economic analysis.

The lack of economic justification for undergrounding distribution systems, combined with concerns over equitable rate treatment and cross-subsidization of the higher costs for placing facilities underground, have been significant issues in IP's approach to the undergrounding of distribution facilities. As concerns the Illinois Power electric distribution system serving the Cities of Champaign and Urbana, IP has worked extensively with the Cities to advance their often expressed desire to place electric facilities underground. IP complies with the Cities' subdivision codes that require the installation of underground electric distribution systems in new developments. At numerous public and private meetings with officials from the Cities, IP has offered to place substantially all of its existing overhead electric distribution system in the Cities underground, consistent with IP's rules and regulations regarding safety, reliability and the avoidance of cross-subsidization (i.e., payment of the incremental cost to install underground facilities). In 2001 IP voluntarily undertook an effort to work cooperatively with the Cities to advance their objective of placing existing overhead facilities underground. The Cities each selected a "typical" block in a residential neighborhood that was currently served by overhead electric facilities. IP then conducted, at its own expense, cost and feasibility studies focused on converting the overhead system to an underground system. The results of the studies were provided to the Cities. Additionally, IP also offered to share its engineering studies with

contractors selected by the Cities in the event that the Cities thought they could secure a lower cost proposal for the conversion work. After IP completed the engineering and provided its estimates, neither City pursued the opportunity.

29. Q. Mr. Brodsky asserted in his finding no. 2 that Illinois Power has committed insufficient budget for the Champaign and Urbana electric systems over the past few years. What is your response?

A. Mr. Brodsky's conclusion appears to be based on data provided in IP's response to a Champaign-Urbana data request for information on Illinois Power's capital and O&M expenditures over the past five years and for projected future expenditures information, and on a response to a Citizens Utility Board ("CUB") data request (No. 2.28) dated May 17, 2004 referring to about **BEGIN CONFIDENTIAL XXXXXXXXXX END CONFIDENTIAL** of possible O&M reductions. The listing of possible O&M reductions contained in the response to the CUB data request were Company-wide items. Only a small part of the potential total amount of reductions pertained to the electrical transmission and distribution systems. These reductions were to expenditures for substation structure painting and line tower painting. Reductions in these efforts would not be anticipated to impact the reliability of the IP electrical system in the cities of Champaign and Urbana.

In Table 2 to Mr. Brodsky's report under the heading "IPC Maintenance Expenditures", he presented information concerning Illinois

Power's forecasted capital and O&M expenditures. This information shows an increase in capital and O&M spending over the next several years. However, Mr. Brodsky states in this section of the report that based on his review of IP's planning studies (and his conclusion that there are many facilities forecasted to be overloaded), an increase in the forecasted expenditures is required. He provided no analysis to show how this conclusion was reached. IP believes it is incorrect. As I noted in a previous answer, IP also believes Mr. Brodsky's assessment of the number of forecasted overloaded facilities is incorrect. Therefore, his assessment of the sufficiency of the funding commitment would also be incorrect.

30. Q. In a section of his report captioned "IPC's Aging Plant", Mr. Brodsky asserted that a considerable amount of IP's transmission and distribution plant is relatively old and may require retirement and replacement in the near future, and he recommended that Illinois Power immediately implement a program to investigate the replacement of aging plant. What is your response to these assertions?

A. These assertions appear to be based on information contained in Table 3 of IP's May 27, 2004 annual filing with the Commission pursuant to 83 Illinois Administrative Code Part 411. The information in this table is developed from accounting records only. The service lives listed in the table are values used for accounting and rate making purposes. Specifically, these service lives are used to establish book depreciation rates. It is a principle of depreciation accounting that average service lives

should be set so as to achieve recovery of the capital investment prior to the actual retirement of the equipment. The actual lives of equipment in the field vary, and are dependent on a variety of factors, including the environment in which the equipment operates, the severity of the use of the equipment, and the response of the equipment to maintenance and to life extension programs. As I described above, Illinois Power has many inspection and maintenance programs in place that are designed to identify equipment requiring maintenance or replacement necessary to provide continued service reliability.

31. Q. Please comment on the section of Mr. Brodsky's report captioned "IPC's System Reliability Indices."

A. This section of his report included discussion of reliability performance indices which electric utilities must use to report their reliability performance to the Commission. These indices include System Average Interruption Frequency Index ("SAIFI"), Customer Average Interruption Duration Index ("CAIDI"), and Customer Average Interruption Frequency Index ("CAIFI"). IP provided data for these indices in response to the Cities of Champaign and Urbana's Data request 1-3. This same data request also requested two other indices not required to be reported to the Commission, namely, the System Average Interruption Duration Frequency Index and the Average Service Availability Index. The information Illinois Power provided included five years (1999-2003) of information for these indices.

Mr. Brodsky noted that the data for indices indicate improvement in the Cities' electric service over the five years 1999-2003, but he expressed concern that there may be areas of poor service. He then concluded that because IP was unable to provide a different and more detailed breakdown of interruption data in response to Champaign/Urbana Data Request 1-4 that Illinois Power has not made any attempt to correlate outages or customers that experience repeat outages with any of its facilities. Mr. Brodsky's ending statement in this portion of his report ignores the considerable effort and expense incurred by Illinois Power to develop and implement a data-gathering system of the magnitude necessary to collect the appropriate data on an electrical system of the size of IP's system and the expense and effort required to correctly select and implement capital and maintenance projects which bring about improved reliability performance in a cost effective manner.

As with many of IP's reporting mechanisms, the data for the reliability indices provided to the Cities is for IP's Champaign service area and is not specific to the cities of Champaign and Urbana. The Champaign service area includes a number of surrounding towns and villages that are serviced by IP personnel working out of the Champaign service unit. However, IP has a tremendous amount of customer and outage data available for analysis within its systems. Due to the large volume of electronic data, computer programs have been developed to extract specific information to help IP make sound business decisions as

appropriate. One such program is called the Reliability Assessment Modeling ("RAM") Tool. Information is extracted and concatenated to help determine areas where additional reliability work can positively impact performance. Work is prioritized based on the best use of funds that impact the greatest number of customers. Another slice of the data is extracted to compare individual customers against the reliability thresholds established by the Commission in Part 411. These thresholds look at three consecutive years of outage data to help determine patterns, since a single year of history may not provide a good analysis or determine a pattern. As reported in IP's 2003 Annual Reliability Report filed with the Commission, no customers in the Champaign service area exceeded these targets for the consecutive years of 2001-2003.

32. Q. Do you have any other comments about the five years of reliability data displayed in Mr. Brodsky's report under the heading "IPC's System Reliability Indices"?

A. Yes. As measured by these indices, in at least four of the five years 1999-2003 the quality and reliability of electric service provided to the Champaign service area was superior to the overall quality and reliability of service provided to the entire IP service area. These data, standing alone, suggest that over the next several years fewer rather than more capital and O&M resources should be devoted to the electric systems in the Champaign service area relative to the balance of IP's service area.

33. Q. Does this conclude your prepared rebuttal testimony?

836 A. Yes, it does.